GEOGRAPHIC

THE NATIONAL GEOGRAPHIC SOCIETY, WASHINGTON 6, D.C.

OCTOBER 3, 1960 • VOLUME 39 • NUMBER 1 . . . *To Know This World, Its Life*

Peking girl learns A B C's as Communists work to replace China's complex ideographs with Westernized letters.

RED CHINA'S CAPITAL

Also—

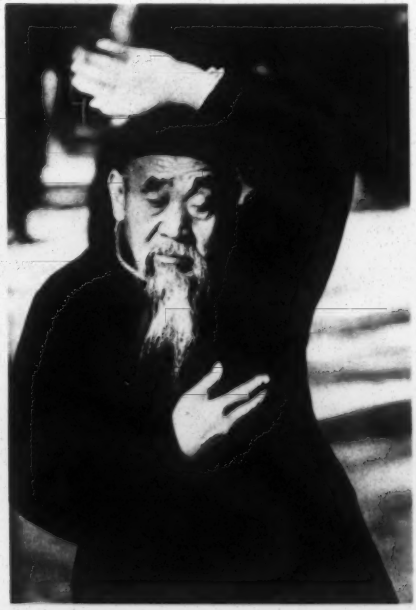
► Niagara Falls ► Swan-Upping ► Congo River

UMI

guarding the nation against invaders.

It grew not as a hub of trade and industry but as a political and cultural center. Examinations in the Chinese classics were given here, and degree winners won also the highest government offices. The greatest scholars of China congregated in Peking.

Today's scholars are apt to be atomic scientists. The din of loud-speakers



now wakes up the city, braying martial tunes while Peking's citizens exercise for 15 minutes. The bearded elder above does a traditional slow-motion drill. The chorus of teen-age girls at the right gives a public performance of mass calisthenics so dear to the Marxist mind.

The old city was really several cities built like a Chinese puzzle—boxes within boxes. Its center was the Forbidden City where emperors in stilt shoes and empresses cooled by peacock fans lived in luxurious and mysterious isolation. None but the royal family could enter. The box known as the Imperial City, where government officials and courtiers dwelt, surrounded the Forbidden City. The next box out contained the Tatar City where Manchu

PHOTOGRAPHS BY BRIAN BRAKE, MAGNUM

Peking Under Communist Rule

THE OLD RICKSHAS are gone, but automobiles have not yet filled the streets. Rice-laden pedicabs do the work of trucks.

Pagoda-style buildings suggest a centuries-old culture, but party slogans across doorways proclaim the new. Loud-speakers urging more and harder work replace the pleasant chants and calls of peddlers who gave the old city a distinctive air.

Wide wind-swept and broom-swept avenues cut through the delightful clutter that once ranked the city among the world's most beautiful.

Despite our mind-pictures deriving from former days and regardless of what we might wish for in government and ideology, this is the city that exists: Peking, 1960—capital of Red China.

Still a place of contrasts and mixtures, Peking is taking on the look of a Communist showcase. Above, the Nationalities' Cultural Palace fronts the Street of Eternal Peace and is flanked by the Hotel for National Minorities—all named with an ear for propaganda.

Here the red flags fly over the heads of six million people. The Communists rule a city that has existed under many masters since 1,000 B. C. It became China's capital in the early 15th century and has been the capital most of the time since. The name, Peking, means "northern capital." During the short periods when the capital was moved, the city's name was changed to Peiping —"northern peace."

Peking rests on a broad, sandy plain, on the same latitude as Philadelphia, and about 30 miles south of the Great Wall of China, 2,200-year-old sentinel

GEOGRAPHIC SCHOOL BULLETINS Copyright © 1960 by the National Geographic Society, Melville Bell Grosvenor, President. Published each school week by the School Service Division, Ralph Gray, Chief. Editorial assistants: Arthur P. Miller, Jr., Frank Sartwell, Katherine Crapster, Liva Baker. Entered as second class matter, Washington, D.C. International copyright. All rights reserved. Rates: United States, $2 for 30 issues (one school year); Canada, $2.25; elsewhere, $2.50. U. S. only, 3 years (90 issues), $5. The National Geographic Society is a nonprofit educational and scientific society established for the increase and diffusion of geographic knowledge.

EDUCATIONAL PRESS ASSOCIATION OF AMERICA

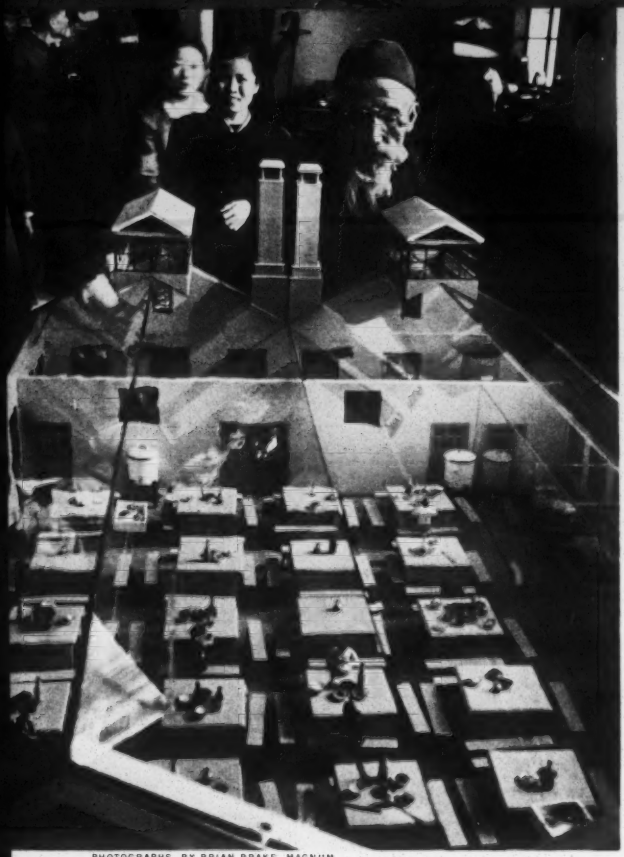
PEDICAB DRIVERS refuel in this restaurant on Liulichang Street. Chopsticks lift a hefty portion of *chiao-tzu*, pastry stuffed with vegetables and meat.

blocks of workers' apartments rise. Women operate many of the factory machines and staff the offices, saving their shopping and housework for Sunday, the only day off of the week. In summer, buses tote loads of children over 12 to suburban gardens where they help grow vegetables to feed the city's burgeoning population.

The schoolgirl on the cover makes progress by learning the Latin ABC's rather than the cumbersome system of 40,000 symbols representing entire words.

China races to construct a powerful nation. Peking is a center of this struggle. "Here are the big new buildings, the disciplined mass demonstrations, the refurbished facades of historic monuments," writes Franc Shor, National Geographic Society senior assistant editor and one-time China resident, in the August, 1960, *National Geographic*. "Here is something for every Westerner to ponder." L.B.

IN THE FORBIDDEN CITY (below) five marble bridges lead tourists over the Golden Water River where once only the imperial family dared tread. Ahead rises the Gate of Supreme Harmony where the first Manchu emperor took his throne in 1644. Not far away rise new office buildings and factories—temples of the present regime.



PHOTOGRAPHS BY BRIAN BRAKE, MAGNUM

MODEL OF a communal dining hall fills an old man's face with wonder and curiosity at the National Agricultural Exhibition Center in Peking. For him and others in the capital, it is the shape of things to come. Long a part of small towns and rural areas, the Communist-conceived commune now invades the cities, shattering the old way of Chinese life built around the family.

Purpose of the commune is to free women from household chores for work in offices, factories, and farms. Nursery schools take care of young children. Several thousand people live in a kind of super-dormitory where not only food and housing are provided, but also clothing, medicine, and education. The commune takes care of its residents right down to the holes in their socks. Full-time units of workers do nothing but mend and wash.

rulers garrisoned troops. South, outside the box, lay the Chinese City where metropolitan life throbbed.

The last Manchu emperor fell in the revolution of 1912, and in 1928 the capital of the new Chinese Republic moved south to Nanking. But much of the old life remained in the old capital. Gently curving tiled roofs topping one-story houses on narrow crooked lanes bespoke a serene family life. Outside, noise filled the city. Itinerant peddlers selling melon seeds—eaten like peanuts—chanted, "Easily opened! Oh so easily opened." Cloth vendors beat on leather drums. Blind fortune tellers sounded plaintive notes on bamboo flutes. Men with broad trays of dried fruits and nuts attracted buyers by clanging two brass bowls together. And barbers solicited business by twanging large tuning forks.

Intricately carved and beautifully gilded shop facades tempted buyers to bargain over a cup of fragrant jasmine tea for shoes, buttons, or pipes. Ricksha boys pulled their human loads over Peking's streets.

Then in 1949 the new Communist tenants moved into the city and the nation. Today another Peking, again the capital, emerges from the old one. It is the city of a shopkeeper who sells electronic computers, but reckons his bills on a bead abacus.

It is the city of the gilded lioness, fondling her cub as she guards a gate in the Forbidden City. But no robed emperor gazes on her; sightseers are clad in the national uniform—blue cotton suit.

But nearly everyone works nearly all the time: men, women, even children. Laborers scramble over bamboo scaffolding, building as fast as they can. Factories, office buildings, and

NIAGARA —
The Fight to Save the Falls

AS NIAGARA FALLS tries to destroy itself, men race to rescue it. Erosion is this scenic wonder's enemy. Water has relentlessly eaten away the soft foundations of the cliffs ever since the falls came into being, more than 25,000 years ago.

Some 900 feet of 160-foot-high Horseshoe Falls, on the Canadian side (at right in the picture), have worn away since Father Hennepin, missionary with the French explorer La Salle, came upon the falls in 1678. The retreat continues at about three feet a year. The crest of American Falls (at left), higher but receiving much less water, falls back four to seven inches a year. Dramatic collapses, with tons of rock tumbling into the river bed, have occurred. In 1954, one of the most drastic cave-ins of record tore 185,000 tons of rock and earth from New York's famous Prospect Point (extreme left). Two years later, a still more disastrous slide farther along the cliff swept most of the Niagara Mohawk hydroelectric plant into the river.

This year, inspectors are carefully watching deep, wide cracks along the near-by crests of American Falls, though engineers feel that a new collapse is not likely in the near future.

Niagara Falls lies about midway on the 36-mile-long Niagara River that flows from Lake Erie into Lake Ontario, pushing over the cliffs all the natural discharge of four of the five Great Lakes: some 212,000 cubic feet of water per second. Churning waters wear away the soft strata of shale and sandstone beneath the hard limestone of the cliff tops, leaving overhangs that break off periodically. If the process is not stopped, only a stretch of rapids will mark this tumbling beauty's site within 20,000 years.

Man's rescue attempts are aimed at reducing the volume of water pouring over the cliffs, distributing it more evenly, and diverting some to hydroelectric plants to generate more electricity for Canadian and American industry. Already the falls provide power for homes and factories in New York, Pennsylvania, and Ontario.

Currently an $800,000,000 project is under way, the cost to be split between Canada and the United States (the Niagara River and its falls form part of the border between the two countries). Hydroelectric installations scheduled to open early next year are to be the biggest in the Western World. But beauty lovers need not be alarmed. Both governments have agreed not to ruin the scene by shutting off the water. They will only turn down the volume at night and during off-seasons.

In fact, part of the tremendous project is aimed at improving the falls' looks. This summer, visitors roamed new parks, drove new roads, crossed new bridges, parked in new parking areas, and viewed the falls from new observation points. Niagara will remain the spectacular show it always has been.

It is North America's first lady of waterfalls, but not the world's. Victoria Falls, on Africa's Zambezi River, and Iguazú Falls between Argentina and Brazil are both wider and higher, and the rainy season pours a greater volume of water over their cliffs. Niagara's year-round volume is greater, however. Guaíra Falls on the Paraná River, on the boundary between Brazil and Paraguay, and Indochina's Khon Cataracts carry larger volumes than Niagara, but neither is as high.

Niagara has always tempted daredevils. Men have walked on ropes strung high above the cataract, and they have hurtled over the brink in barrels—even a woman, a school teacher, succeeded in the latter stunt. Six persons have tried it since 1900; three made it. This summer a seven-year-old, Rodger Woodward of Niagara Falls, New York, was swept over by accident in only swim trunks, sneakers, and life jacket. He emerged miraculously unhurt.

PHOTOGRAPH FROM NEW YORK STATE DEPARTMENT OF COMMERCE

differing ownership, half the brood is

NINE FEET of glistening white wings outreach a swanherd in the Abbottsbury Swannery on England's Dorset coast. Combined with powerful muscles, they give the swan a top flight speed of 50 miles an hour. Largest of the swans except the wild trumpeters of North America, male mute swans may weigh as much as 30 pounds. See: "The Swans of Abbottsbury," in the October, 1959, *National Geographic*.

marked after the male, half after the female. If there is an uneven number, the male's owner takes the odd bird.

The stately mute swan (*Cygnus olar*) is misnamed. It is not mute at all, but can make at least eight different sounds. Swans are born talking—as they crack through their eggshells, they emit high-pitched cheeps.

At first dull gray, they acquire gleaming white plumage gradually over two years. Their home is a bulky nest of coarse water grass, rushes, and reeds built on the river bank. The inside is lined with feather and down.

During the first five months of life, the cygnets stay close to their parents. They cannot fly during this period, but learn to swim expertly, their mother encouraging them with a call that sounds rather like the barking of a young puppy.

At the age of two, they will choose their mates—for life. Year after year, they return to the same nesting area—although not necessarily to the exact site.

The cob guards each brood carefully, fighting off hungry rats who seek the eggs at night, as well as foxes, otters, and birds of prey who would attack the cygnets in the open.

And each year he fights the same losing battle against the swan-uppers who insist on marking all his nestlings.

PHOTOGRAPHS FROM THE BRITISH TRAVEL AND HOLIDAYS ASSOCIATION

Merrie England Marks Its Swans

HEADED BY HER Britannic Majesty's Royal Swan Keeper, the flotilla sweeps up the Thames River in a ceremony left over from the Middle Ages, but still carefully re-enacted each summer.

The nattily-dressed men in their flag-decked boats are on their way to capture baby swans and mark them, a ritual known as swan-upping.

The privilege of keeping a "game" of swans on the Thames is granted by the British Crown. Two ancient trade guilds—the Company of Vintners and the Company of Dyers—still hold the right. But they must mark each year's brood of cygnets with distinctive notches on their beaks or else the noble white birds revert to the Queen.

Determining ownership of the swans was important in the old days when they were a favorite food of nobility. The royal birds graced many a kingly feast. Henry III ordered more than 100 swans for his Christmas celebration in 1251.

Introduction of the turkey from America finished the swan as a popular eating bird, and today's games are chiefly decorative—although the two guilds still hold annual swan feasts.

Swan-upping is not the easy task you might expect from the calm look of the white birds floating in the mirrorlike water, or delicately preening themselves along the bank (left). When defending their young, the male swans, called cobs, swing a mean wing. They can break a man's arm with one blow.

The adults must be kept out of the way while the swanmasters wrestle the young.

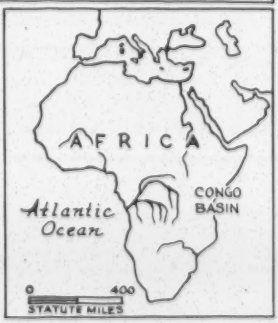
The cygnets are given the same marks as their parents.

If the male and female swans are of differing ownership, half the brood is

The Domain of the Mighty Congo

The almost-square Congo River Basin covers the center of sub-Saharan Africa (right). The run-off from this vast, wet area makes the Congo second only to the Amazon in total water carried to the sea. Three other great river systems help drain Africa: The Nile, flowing northward into the Mediterranean; the Niger, hooking east and south through West Africa; and the Zambezi, flowing east into the Indian Ocean.

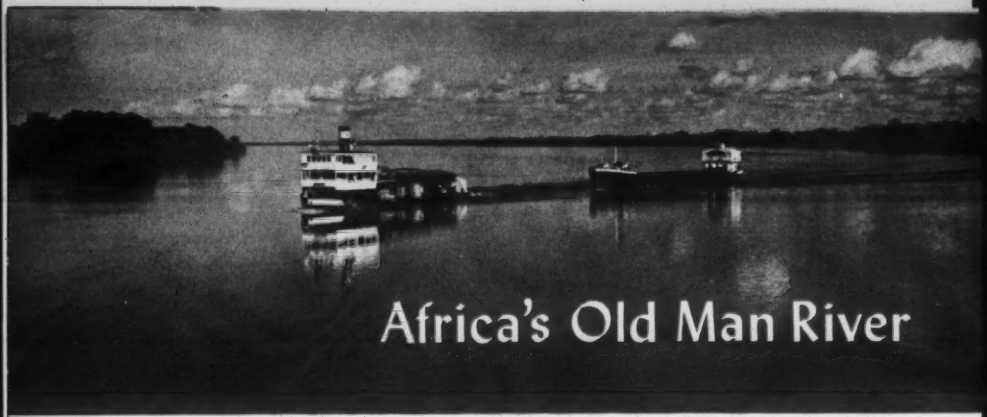
Unfamiliar countries on the large map give an indication of the rushing tide of independence from colonial powers that has engulfed Africa.



(formerly parts of French Equatorial Africa) and into Cameroun (see map above).

Rising in the southeastern section of the Republic of the Congo, the river courses northward, gathering to it the bounty of countless tributaries. Where rapids spoil its depth, railroads bypass them. Below Stanley Falls, the river turns west for a stretch, then flows sluggishly southwest to the sea.

Although subject to the rainy season-dry season rhythm of the tropics, it drains such a large area that tributaries on opposite sides often fill with rain at different times. Thus the Congo seldom overflows, nor is low water a problem.



Africa's Old Man River

W. ROBERT MOORE, NATIONAL GEOGRAPHIC STAFF; LEFT, W. K. NORTON

THE ROLLING CRASH of a freight tug's paddle wheel, the ring of the woodcutter's ax, and the dip of his paddle are the normal sounds of the mighty Congo, a huge, muddy water highway that ties together vast and varied territories in its central African basin.

Now, as well, the ferment of independence, and the upheavals independence has brought, bubbles along its shores.

Like America's Mississippi, the Congo acts as a huge funnel, carrying the produce of a continent's heartland to the sea. But in a land of few roads and rails, it is even more important than our "Old Man River" despite major natural navigation barriers.

Trading stations dot the river banks where Africans bring goods to market by canoe: palm kernels and oil, rubber, kola nuts, peanuts. They spend their profits at near-by counters laden with yards of bright-colored cotton prints, salt, matches, kerosene lamps, hatchets, fishhooks. Or one may make a payment on a bicycle, a sewing machine, or a phonograph he bought several trips before.

Tin, gold, and diamond miners ship their precious harvest downriver. The cotton and rice exporters of Stanleyville load their products on river boats. Imported goods ride upriver. Hippos loll and crocodiles nap in the shallows.

Once the Congo basin held an inland sea. Then the water broke through the mountains to the west and drained a 1,340,000 square-mile saucer. Through this cut the Congo, offering, with tributaries, 8,000 miles of navigable water.

The river's modern history begins about the same time as America's and for the same reason: the search for a shorter passage to India from Europe. In 1482, Diego Cao, a Portuguese navigator, discovered its seven-mile mouth. Later slave traders grew rich along the coast, but it was 400 years before anyone challenged the 220-mile span of rapids that begins just below present-day Léopoldville.

Then Henry M. Stanley spent 1876 and 1877 tracing the river's 2,718-mile course, returning in 1885 to help Léopold II of Belgium set up the Congo Free State from nearly three-fourths of the basin. The Free State became a Belgian colony in 1908 and received its independence June 30, 1960. The other one-fourth of the basin descends into Angola, reaches east into Tanganyika and Northern Rhodesia and north into the new Congo Republic and Central African Republic

LOWRY AERIAL PHOTO SERVICE; BELOW, W. ROBERT MOORE, NATIONAL GEOGRAPHIC STAFF

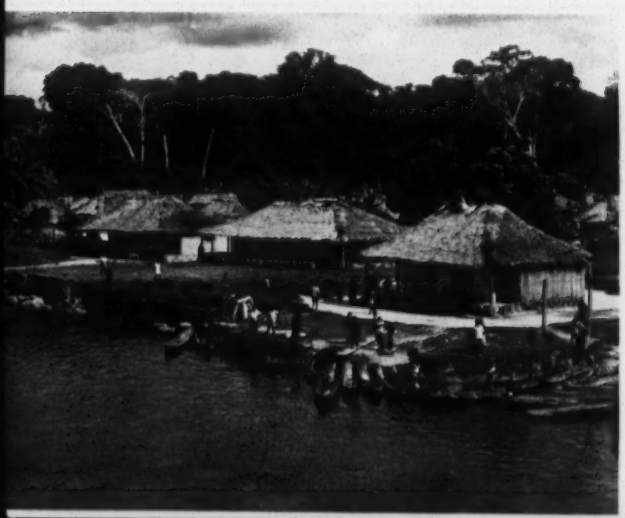
ALONG THE CONGO'S banks the centuries are scrambled. The villagers in thatch-roofed houses below sell wood to a steamer company or watch a plane overhead. One may own a battery-powered radio that blares world news.

Still, the traditional drums summon the men to tribal palavers where elephant damage to gardens may be discussed. Women grind peanuts and corn, mold them into flat cakes, cook on open fires.

In modern Léopoldville (above), automobiles honk amid hospitals, schools, and factories.

COMING NEXT WEEK . . .

Stories and pictures on the drive to unite Europe in commerce; Rotterdam, the world's second busiest port; Komodo dragons; and photographing Florida from a space satellite.



Léopoldville, with Brazzaville, capital of the new Congo Republic, across the river, stands strategically at the end of navigation on the Congo. Upriver surges thousands of miles of water highway. Below, impassable rapids rumble.

Toward Léopoldville and Brazzaville ride the riches of the basin. There they are loaded on trains and sent to seaports below the rapids. The route works in reverse for imports. L.B.

UMI